REMARKS

Claims 79-110 are pending in the subject application. By this Amendment, applicant has canceled non-elected claims 83-88, 97, 99, 100 and 102-105 without disclaimer or prejudice to applicant's right to pursue the subject matter of these claims at a later date in a continuing application. Accordingly, upon entry of this Amendment, claims 79-82, 89-96, 98, 101 and 106-110 will be pending and under examination.

In view of the arguments set forth below, applicant submits that the Examiner's rejections made in the May 28, 2004 Office Action have been overcome. Applicant therefore respectfully requests that the Examiner reconsider and withdraw these rejections.

The Claimed Invention

This invention provides compositions comprising a human monoclonal antibody and a carrier. In a preferred embodiment of this invention, the monoclonal antibody is specific for an antigen associated with cancer, and the amount of the monoclonal antibody in the composition is sufficient to inhibit the growth of or eliminate the cancer. The invention provides methods for treating or preventing a condition in a subject comprising administering to the subject an amount of the claimed composition effective to bind an antigen associated with the condition. In a preferred embodiment, the condition is cancer.

Restrictions/Election

The Examiner acknowledged applicant's November 6, 2003 election with traverse of Group I, claims 79-82, 89-96, 98, 101 and 106-110, and applicant's species election. The Examiner noted that traversal was on the ground(s) that there would not be a serious burden on the Examiner if restriction (and species) were not required. The Examiner stated that applicant's arguments have been considered but that they have not been found persuasive

because a serious search burden does in fact exist. Accordingly, the Examiner stated that the requirement is still deemed proper and is therefore made FINAL.

In response, applicants have canceled, without disclaimer or prejudice, claims 83-88, 97, 99, 100 and 102-105 which had been withdrawn from consideration by the Examiner as being drawn to a non-elected invention.

Double Patenting Rejections

The Examiner rejected claims 79-82 and 106-110 under the judicially created doctrine of obviousness-type double patenting as allegedly unpatentable over claims 1-9 of U.S. Patent No. 6,197,582 ("'582 Patent"). The Examiner stated that although the conflicting claims are not identical, they are not patentably distinct from each other because the antibodies of the instant compositions are secreted from the cells (trioma and tetroma) of the patent.

In response, applicants respectfully traverse this rejection.

As alluded to by the Examiner, claims 79-82 and 106-110 are directed to compositions comprising a monoclonal antibody. However, contrary to the Examiner's statement, applicant notes that this antibody is not secreted by a trioma cell. For the Examiner's convenience, applicant attaches hereto as **Exhibit A** a copy of the issued claims in the '582 Patent. Applicant respectfully points out to the Examiner that claims 1-4 and 8 of this patent are directed to "[a] trioma cell which does not produce any antibody." Thus, applicant submits that a composition comprising an antibody cannot be obvious over a trioma cell which does not produce any antibody. Applicant maintains, therefore, that the pending claims of the present application are patentably distinct from claims 1-4 and 8 of the '582 Patent.

Applicant notes that claims 5-7 and 9 of the '582 Patent are directed to a tetroma cell which is capable of producing a monoclonal antibody. Applicant maintains that the claimed tetroma does not render obvious the instant *composition*, since no motive to combine an antibody with a carrier is present from the claims, and likewise, no reasonable expectation of success is present from the claims. Thus, applicant maintains that all pending claims of the present application are patentably distinct from claims 1-9 of the '582 Patent.

Rejection under 35 U.S.C. §112, Second Paragraph

The Examiner rejected claim 107 under 35 U.S.C. 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner stated that claim 107 is vague and indefinite since one cannot determine that which is intended by the recitation of "B6B11-like cell" since B6B11 is a specific heteromyeloma cell deposited under Accession No. HB-12481.

In response, applicants respectfully traverse this rejection.

Applicant notes that in construing claim language, claims must be read in light of the specification. In this regard, applicant notes that a "B6B11-like" cell is defined in the specification at page 23, lines 29-31 as a hybrid cell produced by the fusion of a mouse myeloma 653-related cell and a human myeloma RPMI 8226-related cell. In addition, the specification at, *inter alia*, page 30, lines 29-32 and page 43, lines 1-4 provides an example of the fusion of the commercially available human myeloma cell line, RPMI 8226, and the mouse myeloma line, X63.Ag8.653, to produce G-418-resistant clones. One of these clones was designated B6B11. The specification states further at page 23, lines 33-36 that B6B11-like cells share functional properties and characteristics with B6B11 heteromyeloma cells. Applicant notes that the specification describes various functional properties and

characteristics of B6B11 cells, including their G-418-resistant, 8-Ag-resistant and HAT-sensitive phenotypes (see specification at, *inter alia*, page 30, lines 32-36); their non-production of immunoglobulins or heavy or light chains (page 36, lines 15-18); and their ability to fuse with human lymphocytes to produce easily cloned hybrids which stably secrete immunoglobulins (page 30, lines 14-19 and 36-38; page 32, Table 1; page 36, lines 18-33; and page 44, lines 13-16).

In view of the details provided in the specification as to the definition and characteristics of a "B6B11-like" cell, applicant maintains that one skilled in the art would readily be able to identify cell lines related to the mouse myeloma 653 and human myeloma RPMI 8226 cell lines. The skilled artisan would also be able to fuse such cell lines and screen for a B6B11-like cell with the functional properties and characteristics described in the specification. Thus, applicants maintain that the disclosures in the specification make the meaning of the term "B6B11-like cell" clear to a person of ordinary skill in the art. Applicant respectfully submits, therefore, that the recitation of "B6B11-like cell" in claim 107 does not render the claim indefinite.

Rejections under 35 U.S.C. §112, First Paragraph

The Examiner objected to the specification under 35 U.S.C. §112, first paragraph, as allegedly failing to provide an enabling disclosure.

The Examiner stated that it is apparent that the trioma cell ATCC HB 12482 is required to practice the invention as set forth in instant claim 110. The Examiner also stated that, similarly, the heteromyeloma cell ATCC HB 12481 is required to practice the invention as set forth by instant claim 106. The Examiner further stated that since the respective cells are essential to the claimed invention they must be obtainable by a repeatable method set forth in the specification or otherwise be readily available to the public. The Examiner also stated that the

claimed cells are not fully disclosed, nor have they been shown to be publicly known and freely available. The Examiner additionally stated that the enablement requirements of 35 U.S.C. §112 may be satisfied by deposits of the above-mentioned cells. The Examiner further stated that the specification does not disclose a repeatable process to obtain the cells. The Examiner also stated that, accordingly, it is deemed that a deposit of these cells should have been made in accordance with 37 CFR 1.801-1.809.

The Examiner noted that applicant has deposited two cells under ATCC Accession Nos. HB 12481 and HB 12482, but that there is no indication in the specification as to public availability. The Examiner stated that if the deposit was made under the terms of the Budapest Treaty, then an affidavit or declaration by applicants, or a statement by an attorney or record over his or her signature and registration number, stating that the specific strain has been deposited under the Budapest Treaty and that the strain will be irrevocably and without restriction or condition be released to the public upon the issuance of a patent, would satisfy the deposit requirement made herein.

The Examiner also stated that claims 106 and 110 are rejected under 35 U.S.C. §112, first paragraph, for the reasons set forth above in the objection to the specification.

In response, applicants affirm that the B6B11 heteromyeloma and MFP-2 trioma cells disclosed in the subject invention were deposited on March 17, 1998, pursuant to the Budapest Treaty, with the Patent Culture Depository of the American Type Culture Collection (ATCC) under ATCC Accession Nos. HB-12481 (B6B11 heteromyeloma) and HB-12482 (MFP-2 trioma). For the Examiner's convenience, applicant attaches hereto as **Exhibit B** a copy of the April 6, 1998 Budapest Treaty Deposit Receipt and Viability Statement for the B6B11 heteromyeloma and MFP-2 trioma cells. In accordance with the requirements of C.F.R. 1.808, applicant's undersigned attorneys state that the deposits of the B6B11

heteromyeloma and MFP-2 trioma cell lines were made under the terms of the Budapest Treaty, and that all restrictions on the availability to the public of the materials deposited under ATCC Nos. HB-12481 and HB-12482 will be irrevocably removed upon the grant of a patent from the subject application. Notwithstanding the above remarks, applicant in no way concedes the correctness of the Examiner's remarks which form the basis of this rejection.

In view of the foregoing, applicant requests that the Examiner withdraw the rejection of claims 106 and 110 under 35 U.S.C. §112, first paragraph.

Conclusion

In view of the remarks made hereinabove, applicant respectfully requests that the Examiner reconsider and withdraw the claim rejections set forth in the May 28, 2004 Office Action, and earnestly solicits allowance of all claims pending in the subject application.

Supplemental Information Disclosure Statement

Applicant notes that on the PTO-1449 form returned by the Examiner with the May 28, 2004 Office Action, listed patent documents were initialed to indicate they had been considered by the Examiner but lines were drawn through the non-patent references, suggesting that these had not been considered. In a June 7, 2004 telephone conference with Ashton Delauney, Esq. of the undersigned attorney's office, the Examiner explained that whereas she had been able to access the cited patent documents online, she had been unable to locate copies of any of the non-patent references listed on the PTO-1449 form in the August 23, 2001 Information Disclosure Statement. Applicant notes that, pursuant to 37 C.F.R. §1.98(d), copies of these non-patent references had not been submitted to the Patent Office in the August 23, 2001 Information Disclosure Statement since copies had previously been submitted in a November 20, 1998 Information Disclosure Statement filed in connection with U.S. Serial No. 09/040,833, now U.S. Patent No. 6,197,582, on which the present application relies for an earlier filing date under 35 U.S.C. §120. The Examiner requested during the June 7, 2004 telephone conference that applicant resubmit copies of these non-patent references together with his response to the pending Office Action.

In response to the Examiner's request and in accordance with his duty of disclosure under 37 C.F.R. §1.56, applicant directs the Examiner's attention to the following references which are listed on the attached Form PTO-1449 (**Exhibit C**) and attached hereto as **Exhibits 1-12**:

1. Brodin T., Olsson L., Sjorgen H. (1983) Cloning of human hybridoma, myeloma, and lymohoma cell lines using enriched human monocytes as feeder layer, J. Immunol. Meth. 60: 1-7 (**Exhibit 1**);

2. Goldman-Leikin, R.E., Salawen, H.R., Herst, C.V., Variakojis, D., Bian, M.L., Le Beau, M.M., Selvanayagen, P.,

Marder R., Anderson, R., Weitzman, S., Rosen, S.T. (1989) Characterization of a novel myeloma line MM-I, J. Lab. Clin. Med. 113: 335-345 (**Exhibit 2**);

3. Kozbor, D.,. Roder, J.C. (1981) Requirements for the establishment of high titered human monoclonal antibodies against tetanus toxoid using the Epstein-Barr virus technique, J. Immunol. 127: 1275-1280 (**Exhibit 3**);

4. Kozbor, D., Tripputi, P., Roder, J.C., Croce, C.M. (1984) A human hybrid myeloma for production of human monoclonal antibodies, J. Immunol. 133: 3001-3005 (**Exhibit 4**);

5. Levy, R., Miller, R.A. (1983) Tumor therapy with monoclonal antibodies, Fed. Proc. 42: 2650-2656 (**Exhibit 5**);

6. Nilsson, K., Ponten, J. (1975) Classification and biological nature of established human hematopoetic cell lines, Int. J. Cancer 15: 321-341 (**Exhibit 6**);

7. Oestberg, L., Pursch, E. (1983) Human x (mouse x human) hybridomas stably producing human antibodies, Hybridoma 2: 361-367 (**Exhibit 7**);

8. Posner, M.R., Schlossman, S.F., Lazarus, H. (1983) Novel approach to the construction of human "myeloma analogues" for the production of human monoclonal antibodies, Hybridoma 2: 369-381 (**Exhibit 8**);

9. Reading, C.L. (1982) Theory and methods for immunization in culture and monoclonal antibody production, J. Immunol. 53: 261-291 (**Exhibit 9**);

10. Raison, R.L., Walker, K.Z., Halnan, C.R.E., Briscoe, D., Basten, A. (1982) Loss of secretion in mouse-human hybrids need not be due to the loss of a structural gene, J. Exp.

Med. 156: 1380-1389 (**Exhibit 10**);

11. Teng, N.N.H., Lam, K.S., Riera, F.C., Kaplan, H.S. (1993) Construction and testing of mouse-human heteromyelomas for human monoclonal antibody production, Proc. Natl. Acad. Sci. (U.S.A.) 80: 7308-7311 (**Exhibit 11**); and

12. Weiss, M.C., Green, H. (1967) Human mouse hybrid cell lines containing partial complements of human chromosomes and functioning human genes, Proc. Natl. Acad. Sci. (U.S.A.) 58: 1104-1111 (**Exhibit 12**).

The Examiner is respectfully requested to make these references of record in the present application by initialing and returning a copy of the enclosed Form PTO-1449.

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicant's undersigned attorneys invite the Examiner to telephone them at the number provided below.

No fee is deemed necessary in connection with the filing of this Amendment. However, if any fee is required, authorization is hereby given to charge the amount of such fee to Deposit Account No. 03-3125.

Respectfully submitted,

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

8/30/07

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Claims

What is claimed is:

1. A trioma cell which does not produce any antibody obtained by fusing a heteromyeloma cell which does not produce any antibody with a human lymphoid cell, wherein the heteromyeloma cell is designated B6B11 (ATCC Designation number HB-12481).

2. The trioma cell of claim 1, wherein the human lymphoid cell is a myeloma cell.

3. The trioma cell of claim 1, wherein the human lymphoid cell is a splenocyte or a lymph node cell.

4. The trioma cell of claim 1, wherein the trioma cell is designated MFP-2 (ATCC Designation number HB-12482).

5. A tetroma cell capable of producing a monoclonal antibody having specific binding affinity for an antigen obtained by fusing the trioma cell of claim 1 with a human lymphoid cell capable of producing antibody having specific binding affinity for the antigen.

6. The tetroma cell of claim 5, wherein the human lymphoid cell is selected from the group consisting of a peripheral blood lymphocyte, a splenocyte, a lymph node cell, a B cell, a T cell, a tonsil gland lymphocyte, a monocyte, a macrophage, an erythroblastoid cell and a Peyer's patch cell.

7. The tetroma cell of claim 5, wherein the antigen is selected from the group consisting of a tumor-associated antigen, a cell specific antigen, a tissue-specific antigen, an enzyme, a nucleic acid, an immunoglobulin, a toxin, a viral antigen, a bacterial antigen and a eukaryotic antigen.

8. A trioma cell generated by a method comprising:

(a) fusing a heteromyeloma cell which does not produce antibody with a human lymphoid cell thereby forming a trioma cell;

(b) incubating the trioma cell formed in step (a) under conditions permissive to the production of antibody by the trioma cell; and

(c) selecting a trioma cell that does not produce antibody,

wherein the heteromyeloma cell of step (a) is designated B6B11 (ATCC Designation number HB-12481).

9. A tetroma cell generated by a method comprising:

(a) fusing the trioma cell of claim 1 with a human lymphoid cell thereby forming a tetroma cell;

(b) incubating the tetroma cell formed in step (a) under conditions permissive to the production of antibody by the tetroma cell; and

(c) selecting a tetroma cell capable of producing a monoclonal antibody.